

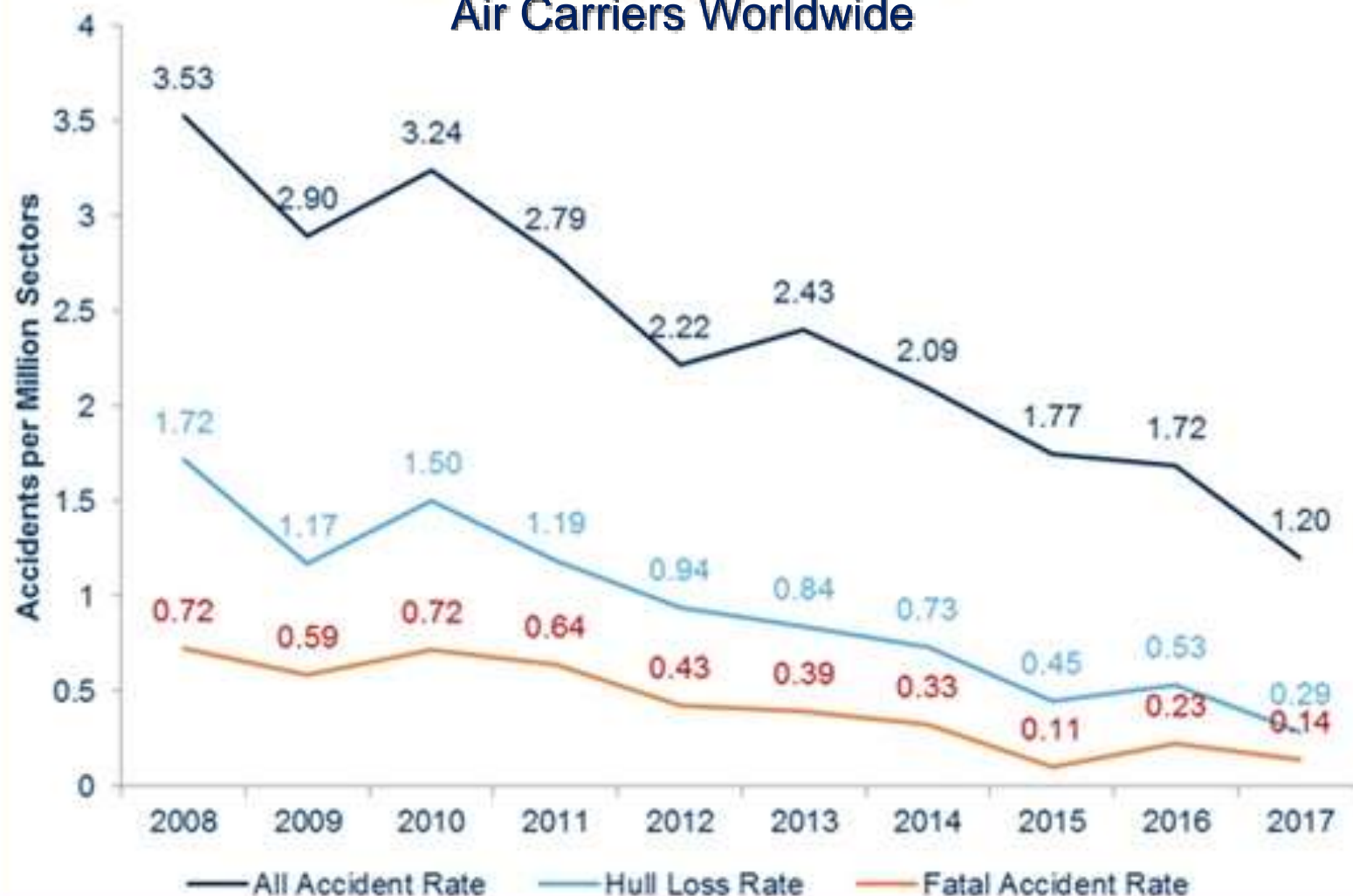


National Transportation Safety Board

The Critical Role of Leadership in Promoting Flight Operations Safety

Robert Sumwalt

Jet and Turboprop | All Accidents Air Carriers Worldwide



Source: IATA

Today's Message

The importance of flight operations and training leaders to promote and insist upon professionalism, standardization and flight deck discipline.



“Leadership is about influence.
Nothing more. Nothing less.”

- John Maxwell





5 in 5



Pittsburgh, Sept 1994



USAir 1016
July 2, 1994
Charlotte, North Carolina
37 fatalities



Failure to follow procedures led to crash, board finds

By CHARLES POPE
Washington Bureau

WASHINGTON — USAir Flight 1016 crashed last year after its pilots blundered into a severe thunderstorm shrouding the Charlotte airport and then responded incorrectly when the threat was recognized, federal safety officials concluded Tuesday.

The picture painted by the No.

Pilo



cited

n dangerous weather
near situation
asures to escape the wind shear

and complete weather

children
advisories

Failure to follow
procedures led
crash, board

APRIL 5, 1995

NO. 95
104TH YEAR
4 SECTIONS
46 PAGES
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Transportation Safer
TODAY ★ TOMORROW

NTSB Finding

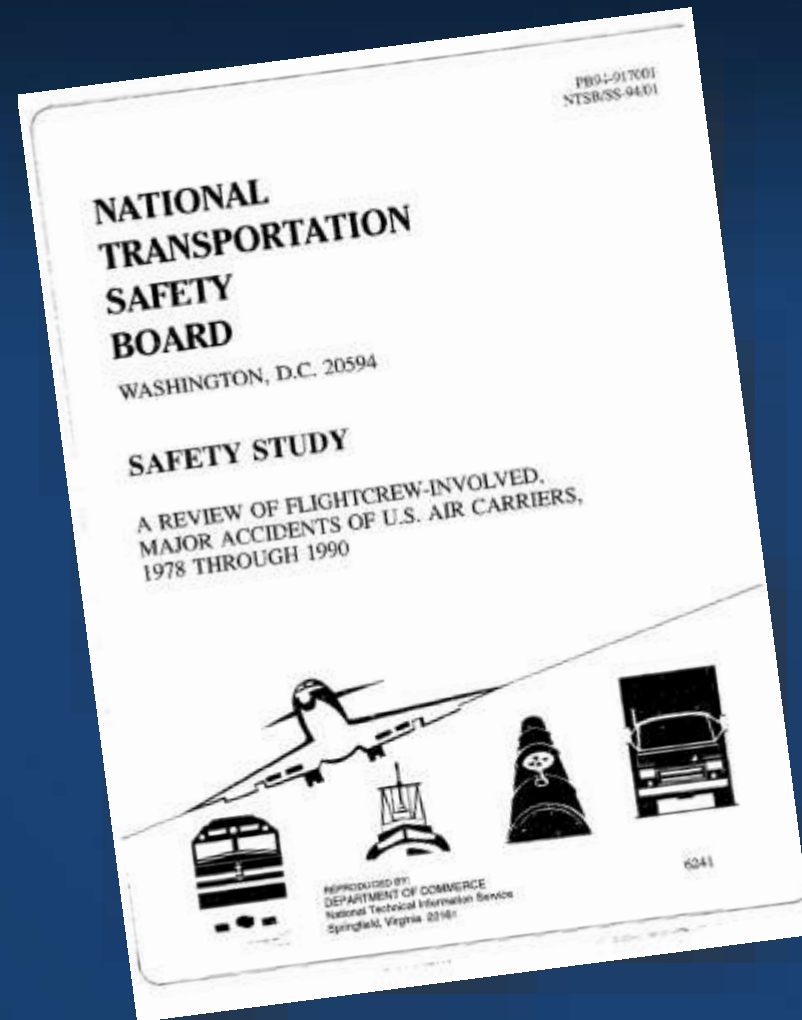


“The FAA ... and USAir’s management were aware of inconsistencies in flightcrew adherence to operating procedures within the airline; however, corrective actions had not resolved this problem.”

Why procedural compliance is important

- NTSB accident data
- Lautman-Gallimore Study
- Accident Prevention Strategies report

NTSB accident data



What NTSB accident data show

- Procedural errors, such as not making required callouts or failing to use appropriate checklists, were present in over 75% of reviewed accidents.



Control of the Crew Caused Accident

by
L.G. Lawrence
Engineering Safety
and
P.L. Williams
Flight Operations Support

The air safety record has improved substantially in the decades since introduction of the jet transport. In 1970 and throughout the period were caused accidents dominated all other accident categories by a wide margin (Figure 1). It has consistently accounted for over 70% of the major (dead or full loss) accidents in spite of increasing attention for cockpit resource management programs and other human factors issues.

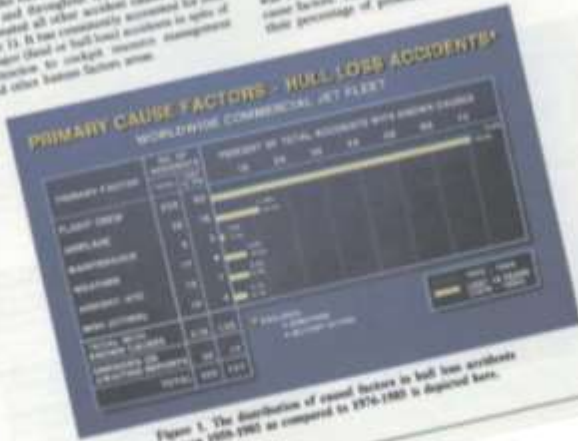


Figure 1. The distribution of canal factors in both lean and abundant years. The distribution of canal factors in both lean and abundant years between 1976-1985 as compared to 1974-1985 is depicted here.

AIRLINES/APR-JUN 1987



- NTSB**  **Making Transportation Safer**
YESTERDAY ★ TODAY ★ TOMORROW

Lautman-Gallimore Study

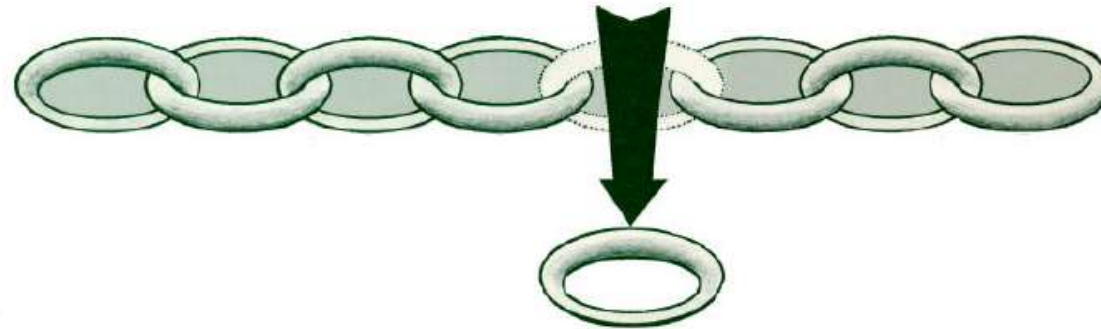
- Management emphasis on safety
 - Safety as begins at the top of the organization and permeates the entire operation.
 - “Flight operations and training managers recognize their responsibility to flight safety and are dedicated to creating and enforcing policies.”
 - “The presence or absence of a safety organization did not alter the total involvement of these managers.”
 - “There is an acute awareness of the factors that result in accidents, and management reviews accidents and incidents in their own airline and in other airlines and alters their policies and procedures to best guard against recurrence.”

Lautman-Gallimore Study

- Having a strong commitment to standardization and discipline were among the “key elements of safe operations.”
- “Cockpit procedural language is tightly controlled to maintain consistency and to avoid confusion from non-standard callouts Callouts and responses are done verbatim.”

Accident Prevention Strategies

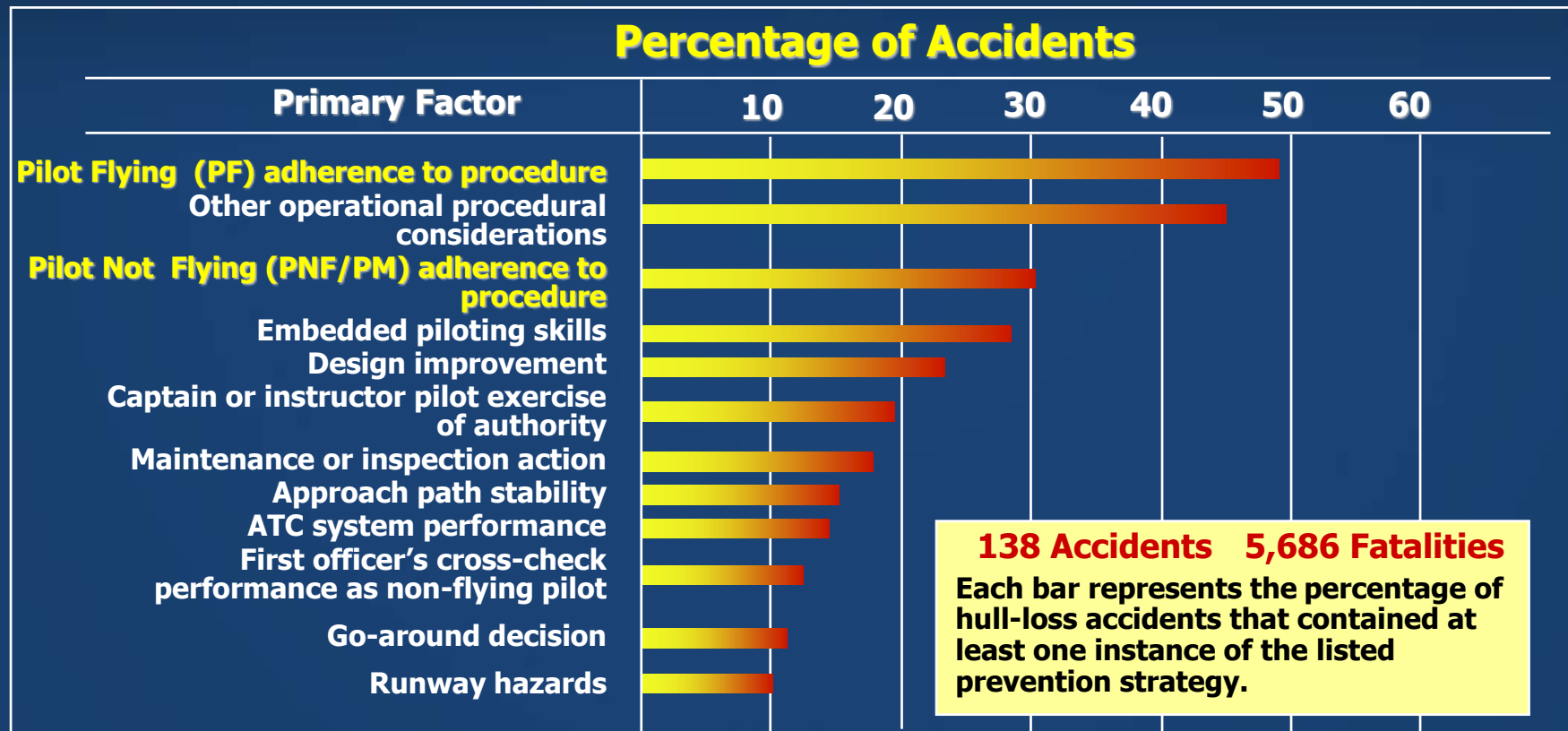
“Removing Links in the Accident Chain”



Commercial Jet Aircraft Accidents
World Wide Operations
1982 – 1991

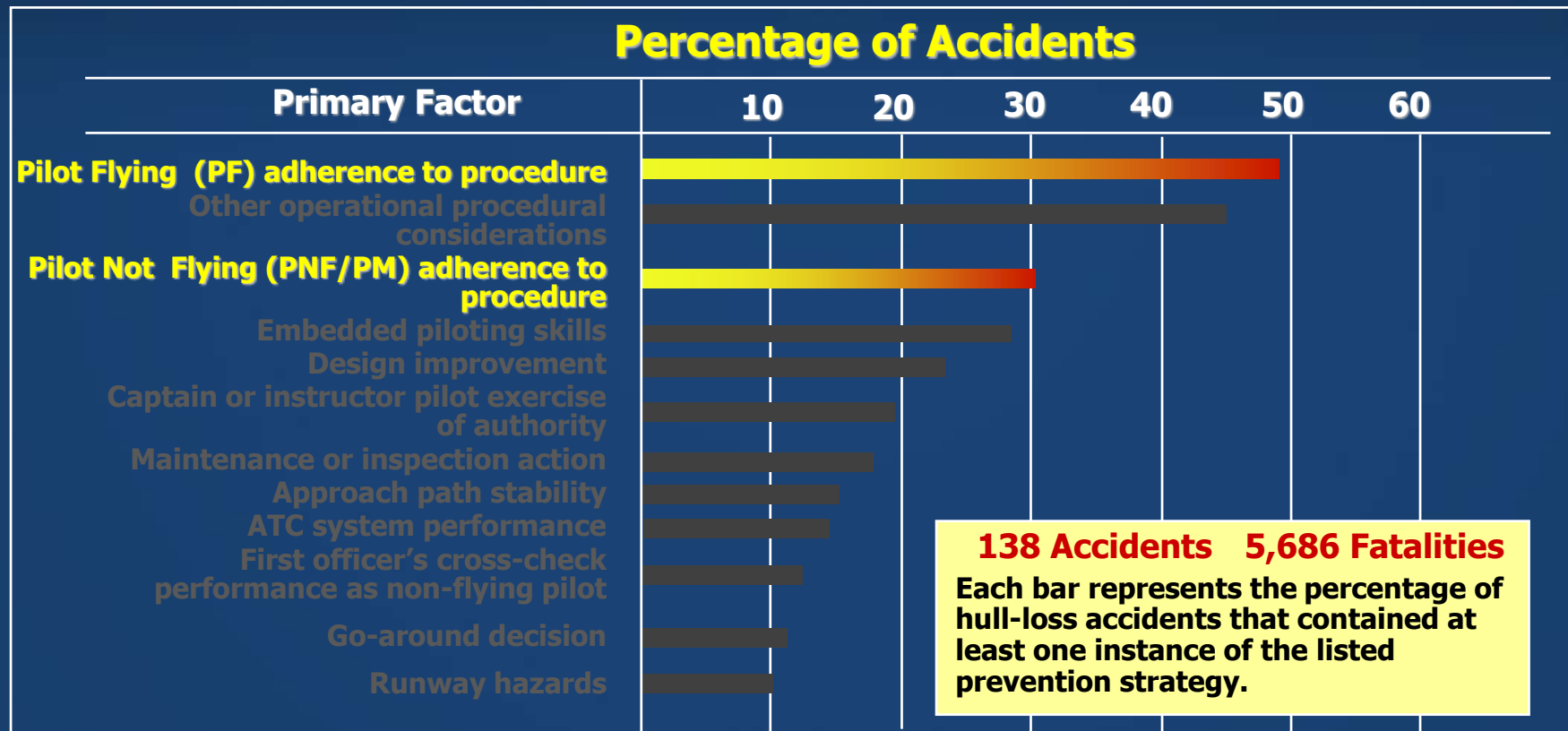
Accident Prevention Strategies

Hull-loss Accidents over 10 Year Period



Accident Prevention Strategies

Hull-loss Accidents over 10 Year Period



Why SOPs are not followed

- Organization lacks adequate SOPs
- Organizations don't adhere to their SOPs
- Flight crews intentionally disregard SOPs

Why SOPs are not followed

FLIGHT CREWS INTENTIONALLY DISREGARD SOPS



**US Airways Express
January 19, 2010
Charleston, WV**

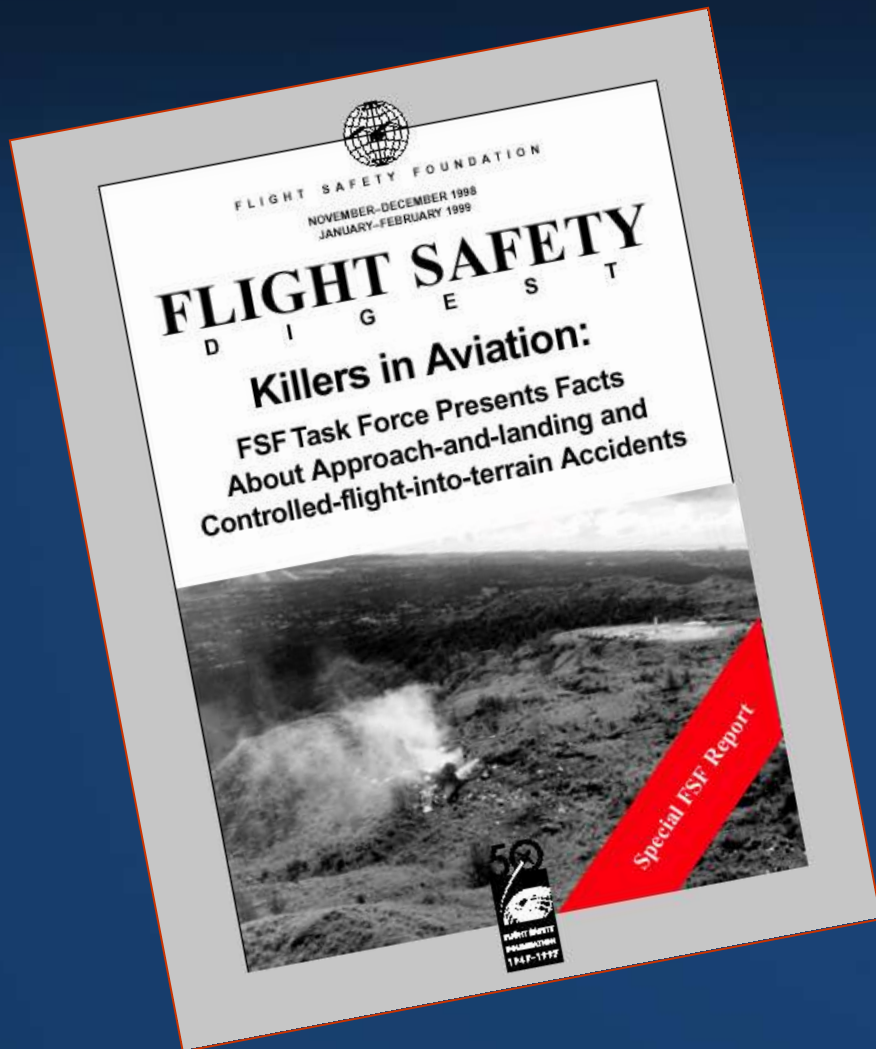


Probable cause:

- “...the flight crewmembers’ unprofessional behavior, including their non-adherence to sterile cockpit procedures by engaging in non-pertinent conversation, which distracted them from their primary flight-related duties and led to their failure to correctly set and verify the flaps.”



Intentional non-compliance affects safety



- Intentional crew non-compliance was a factor in 40% of the worldwide accidents reviewed.
 - R. Khatwa & R. Helmreich

Intentional non-compliance leads to other problems

- Line Operations Safety Audit (LOSA) data revealed that, compared to crews who followed SOPs, crewmembers who intentionally deviated from procedures:
 - averaged making three times more errors
 - mismanaged more errors
 - found themselves in more undesired aircraft situations.

John T.



- Self-initiating checklist
- Doing checklists from memory

“No other captain has said anything about the way I do checklists.”

“I’ve even flown with check airmen and you’re the first one to ever say anything about this.”

Something to think about

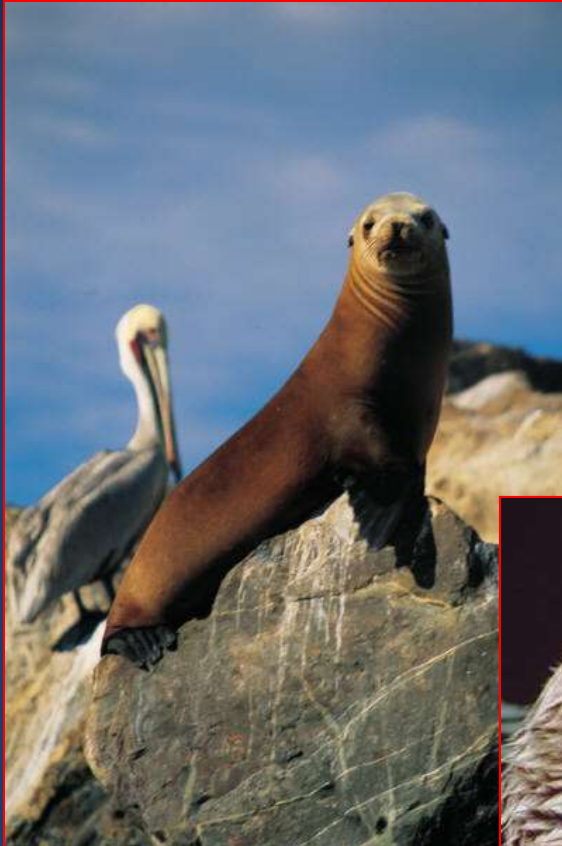
- Next time you see someone violating the sterile cockpit or being a little loose with callouts or checklist items, what are you going to do?
 - Are you going to let it go, or are you going to say something about it?
- If you let it go, you are providing tacit approval, which reinforces this undesirable behavior.

- In your flight operations/training leadership position, if you accept anything less than standard, you send a message that it is okay to perform to a lower standard.

Establishing a culture of procedural compliance

- Procedures must not be developed in a vacuum - they must have the input of those who are expected to use them.
- Also, it is critical that crewmembers understand the reason for the procedures.
- Avoid seals, sea otters, and walruses.
- Avoid “Normalization of deviance”
- Avoid selective compliance

Avoid seals, sea otters, and walruses



Avoid seals, sea otters, and walruses



Deepwater Horizon

Avoid seals, sea otters, and walruses

Deepwater Horizon



Avoid seals, sea otters, and walruses

BP Spill Response Plan for that Specific Location:

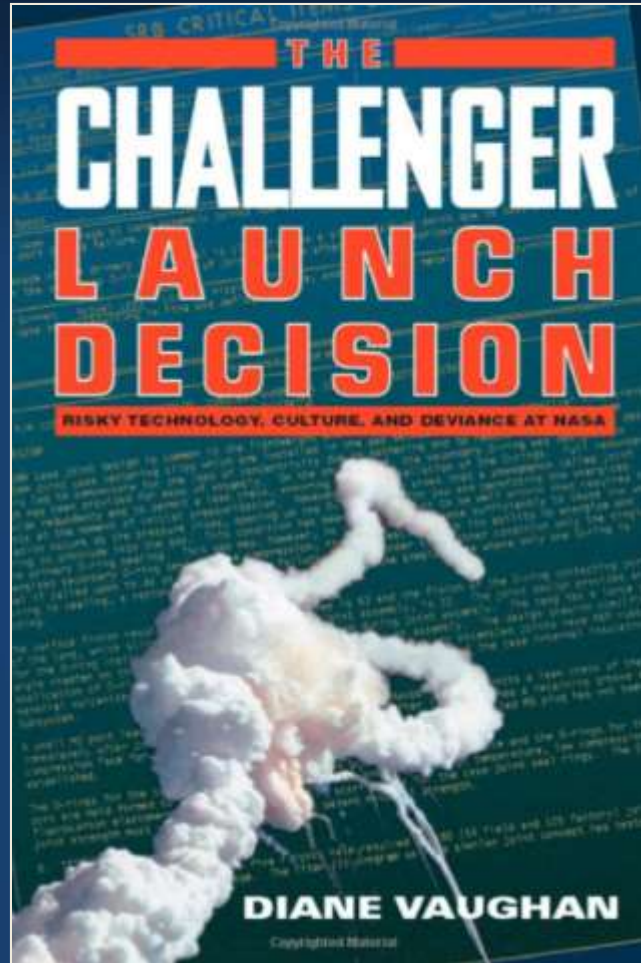
- Listed a wildlife specialist at University of Miami
 - He left University of Miami 20 years earlier
 - Died 4 years before the plan was even *published*
- Listed incorrect names and phone numbers for marine life specialists in Texas
- Listed instructions for how to deal with seals, sea otters, and walruses
 - **None of these mammals even live in the Gulf of Mexico**

Avoid seals, sea otters, and walruses

In other words...

Make sure your procedures reflect
the way you intend to operate,
and then operate that way.

Avoid “Normalization of Deviance”



- Normalization of Deviance: When not following procedures and taking “short cuts” and becomes an accepted practice.

Avoid Selective Compliance



- “That is a stupid rule.”
- “I don’t have to comply with that one.”

Recommendations for

OBTAINING BETTER COMPLIANCE

Check for compliance



- Audit flight crews for compliance
- The goal is precision – not perfection.

“What gets measured gets done.
What gets measured and fed back gets done well.
What gets rewarded gets repeated.”

- John E. Jones

“Leadership is about influence.
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- John Maxwell

